

We Claim:

1. A system for cooling a sealed portion of a container, the system comprising:
 - a transferring arrangement for transferring one or more containers; and
 - a plurality of cooling arrangements comprising
 - one or more gripping mechanisms for gripping the containers, and
 - one or more cooling mechanisms for cooling one or more sealed portions of the containers;

wherein the cooling arrangements are constructed and arranged to cool the sealed portions of the containers while the containers are being transferred.
2. The system according to claim 1, further comprising a platform constructed and arranged to revolve about a shaft and to receive one or more containers thereon.
3. The system according to claim 1, wherein the cooling arrangements comprise:
 - a pair of cooling components constructed and arranged to secure the sealed portion therebetween;
 - a supply mechanism for providing a cooling fluid to at least one cooling component;
 - a removal mechanism for removing the cooling fluid from at least one cooling component.
4. The system according to claim 3, wherein the cooling arrangements further comprise a discharge mechanism for discharging the cooling fluid from the cooling arrangement.

5. The system according to claim 3, wherein the removal mechanism removes the cooling fluid from the cooling component after the cooling fluid has **thermally interacted** with the cooling component.

6. The system of claim 3, wherein the platform is constructed and arranged to revolve about a shaft and wherein the supply mechanism and the removal mechanism are at least partially within the shaft.

7. The system of claim 3, wherein each of the supply mechanism and the removal mechanism comprises a flexible tube.

8. The system of claim 3, wherein each of the supply mechanism and the removal mechanism is connected to a cooling component.

9. The system of claim 3, wherein the cooling fluid comprises water at a temperature within a range of about 12°C to 20°C.

10. The system of claim 1, wherein the gripping mechanism comprises a pincer.

11. The system of claim 1, wherein the gripping mechanism comprises a pincer constructed and arranged to be radially movable.

12. The system of claim 1, wherein the gripping mechanism comprises:

a pincer arrangement,

a sliding seat constructed and arranged to receive the pincer arrangement,

a roller connected to the pincer arrangement,

a support platform constructed and arranged to support the sliding seat, the support platform comprising a groove for receiving the roller, wherein the roller is slidably movable within the groove.

13. The system of claim 12, wherein the groove comprises a loop shape having a first portion having a first radius and a second portion having a second radius greater than the first radius, wherein the pincer arrangement is in an extended position when the roller is within the second portion of the groove and the pincer arrangement is in a retracted position when the roller is within the first portion of the groove.

14. The system of claim 13, wherein the pincer arrangement is constructed and arranged to grasp a container when the pincer arrangement is in the retracted position and further constructed and arranged to release the container when the pincer arrangement is in the extended position.

15. The system according to claim 1, wherein the cooling arrangements comprise a fixed cooling component and a displaceable cooling component, wherein the displaceable cooling component is selectively displaceable between an open position for receiving a container and a closed position for securing the container between the fixed cooling component and the displaceable cooling component.

16. The system according to claim 15, further comprising an actuator constructed and arranged to move the displaceable cooling component away from the fixed cooling component.

17. The system according to claim 16, wherein

the cooling assembly further comprises an arm connected to the fixed cooling component; and

the actuator comprises a plurality of cooling rods, each cooling rod connected to at least one other cooling rod;

wherein at least two cooling rods are pivotally connected to the arm and at least one cooling rod is connected to the displaceable cooling component.

18. The system according to claim 17, wherein the platform is constructed and arranged to revolve about a shaft, the system further comprising:

a support beam on the platform at a predetermined distance from the shaft,
a movable support constructed and arranged to be slidably movable along the support guide, the movable support being connected to at least one cooling rod pivotally connected to the arm, and

a guide mechanism having a first end pivotally connected to the movable support and a second end pivotally connected to the shaft.

19. The system according to claim 18, wherein the guide mechanism further comprises a guide roller constructed and arranged to connect the guide mechanism to the movable support.

20. The system according to claim 1, wherein the cooling arrangements are constructed and arranged to transfer the container while cooling the sealed portion of the container.

21. The system of claim 12, wherein:

the cooling arrangement comprises a fixed cooling component and a displaceable cooling component, wherein the displaceable cooling component is selectively displaceable between an open position for receiving a container and a closed position for securing the container between the fixed cooling component and the displaceable cooling component; and

wherein the pincer arrangement comprises an open position coinciding with the open position of the cooling component, and a closed position coinciding with the closed position of the cooling component.

22. A method for cooling a sealed portion of flexible containers, the method comprising:

sealing a flexible container to form a sealed portion;
cooling the sealed portion;
transferring the flexible container simultaneously while cooling the sealed portion.

23. The method according to claim 22, wherein the cooling the sealed portion comprises providing a cooling fluid and providing an indirect heat exchange between the cooling fluid and the sealed portion.

24. The method according to claim 22, further comprising providing a cooling fluid comprising water having a temperature within a range of about 12°C to 20°C.

25. A system for filling flexible containers, the system comprising:

a container sealing arrangement for sealing a flexible container;

a filling arrangement for filling the flexible containers;
a transferring arrangement for transferring the flexible containers, wherein the transferring arrangement comprises a cooling mechanism constructed and arranged to cool a portion of the flexible container.

26. A system for cooling a sealed portion of a container, the apparatus comprising:

a platform for supporting one or more containers thereon, the platform constructed and arranged to revolve around a shaft;
a plurality of cooling arrangements comprising
one or more gripping mechanisms for gripping the container, and
one or more cooling mechanisms for cooling one or more sealed portions of the containers, the cooling mechanisms comprising a plurality of cooling components that contact the sealed portion, the cooling components having a cooling fluid flowing within;
wherein the cooling arrangements are constructed and arranged to transfer the containers.